IN THE CLAIMS

Please cancel claims 1-6 and 12-~~18~~ 17, without prejudice or disclaimer.

Please add the following new claims.

~~18~~ 19. A solid support for the synthesis of a nucleic acid comprising:

a) an organic or inorganic polymer, optionally bearing functional -COOH or -$NH_2$ groups, coupled to

b) a functionalizing group including a divalent hydrocarbon radical, said hydrocarbon radical containing first and second adjacent carbon atoms respectively substituted with first and second reactive groups and optionally substituted with inert groups, which do not react under conditions of solid phase nucleic acid synthesis, wherein

- said first reactive group comprises a hydroxy group capable of reacting selectively with the 3' or 5' phosphate, phosphite or phosphorothioate group of a first nucleotide monomer reagent, in order to bind said first nucleotide monomer reagent to said hydrocarbon radical or heterocyclic moiety, under condensation conditions which are the same as those used to bind a second nucleotide monomer reagent to said first nucleotide monomer, and
- said second reactive group comprises a nucleophilic group capable, after extension of the nucleic acid to be synthesized by successive

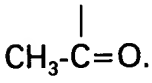
incorporations of nucleotide monomer reagents to form a chain containing said first nucleotide monomer reagent as a first nucleotide monomer, of cleaving said 3' or 5' phosphate, phosphite or phosphorothioate group from said first nucleotide monomer through a one step β-elimination reaction, thereby removing said nucleic acid from said functionalizing group, which remains connected to said polymer and, thereby, providing a hydroxy group on the 3' or 5' position of said first monomer.

20. A support according to claim 19, wherein said functionalizing group is a heterocycle formed, in part, by said adjacent carbon atoms.

21. A support according to claim 20, wherein said polymer is connected to said heterocycle through a substituted or unsubstituted moiety.

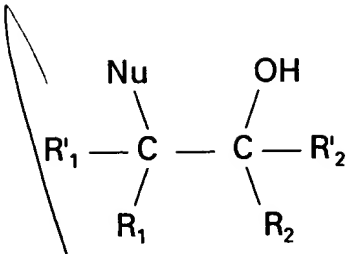
22. A support according to claim 19, wherein said adjacent carbon atoms form part of a ribose ring and said nucleophilic group is the 2'-O function of said ribose ring protected with a protecting group.

23. A support according to claim 22, wherein said nucleophilic group is



24. A support according to claim 19 comprising

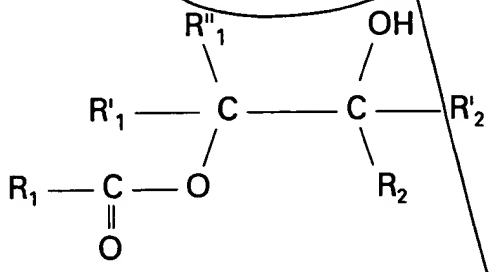
a) a compound having the formula



(I)

wherein one of $R_1$, $R'_1$, $R_2$ and $R'_2$ represents said inorganic or organic polymer or a hydrocarbon substituted with said inorganic or organic polymer, wherein three of $R_1$, $R'_1$, $R_2$ and $R'_2$ are identical or different and represent, independently of each other, H or an optionally substituted inert group, which does not react under conditions of solid phase nucleic acid synthesis, or $R_1$ and $R_2$ taken together or $R'_1$ and $R'_2$ taken together form part of a heterocycle, and wherein Nu represents said nucleophilic group;

b) or a compound having the formula



(II)

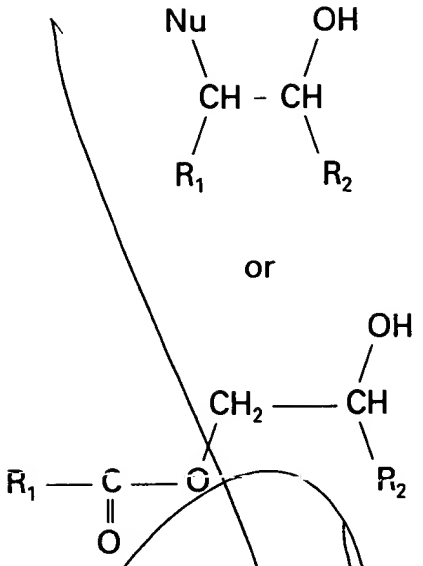
- wherein one of $R_1$, $R'_1$, $R''_1$, $R_2$ and $R'_2$ represents said inorganic or organic polymer or a hydrocarbon substituted with said inorganic or organic

polymer, wherein four of $R_1$, $R'_1$, $R''_1$, $R_2$ and $R'_2$ are identical or different and represent, independently of each other, H or an optionally substituted inert group, which does not react under conditions of solid phase nucleic acid synthesis, or $R_1$ and $R_2$ taken together or $R'_1$ and $R'_2$ taken together form part of a heterocyclic moiety, and wherein Nu represents said nucleophilic group.

25. A support according to claim 24, wherein $R_1$, $R'_1$, $R''_1$, $R_2$ and $R'_2$ are identical or different and represent an alkyl group optionally substituted with one or more halogens and Nu represents a nucleophilic group selected from the group consisting of $-NH_2$, halogen, -OAlk, -SAlk, -NHAlk, -NHAc, -OAc, -SAc and $-N(Alk)_2$, wherein Alk and Ac respectively represent an alkyl group and an acyl group optionally substituted with one or more halogens.

26. A support according to claim 24, wherein Nu represents a nucleophilic group selected from the group consisting of -NHAc, -OAc, -SAc and $-N(Alk)_2$, wherein Alk and Ac respectively represent a $C_1$ to $C_4$ alkyl and acyl group optionally substituted with one or more halogens.

27. A support according to claim 24, comprising a compound of formula

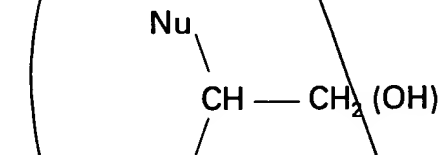


or

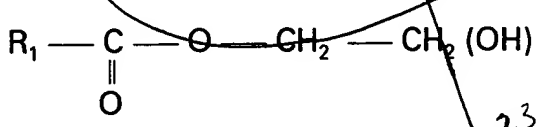


– wherein $R_1$, $R_2$ and Nu have the meaning given in claim ~~24~~ 23.

~~28~~ 27. A support according to claim 24, comprising a compound of formula



or



wherein $R_1$ and Nu have the meaning given in claim ~~24~~ 23.

~~29~~ 28. A solid support for the synthesis of a nucleic acid, said support comprising a compound having the formula: